



BEATF

Transportation Committee

Public Works Department
March 2012



Agenda



-
- Department Overview
 - Program Integration
 - Infrastructure Assessment Review
 - Department Prioritization Process
 - Program Overview
 - Street Reconstruction / Rehabilitation
 - Sidewalk
 - Bikeways
 - Individual Project Overview
 - Bridge
 - Bicycle and Trails
 - Neighborhood Partner Program

Department Overview

The Public Works Department (PWD) strives to implement creative, innovative and sustainable strategies to address the City's needs for mobility, safety and facilities development that obtain the best value for the resources available.

Public Works' four primary service areas are:

- Infrastructure maintenance and repair
- Design and delivery of the City's Capital Improvement projects.
- Neighborhood connectivity activities (including planning and construction of bicycle, pedestrian facilities, urban trails, and sidewalks).
- Child Safety Program (including school zone improvement projects and provision of crossing guards for neighborhood schools).





Program Integration & Execution



- **Program Proponents**

- ATD is the proponent for new capacity projects and traffic calming
- PDR is the proponent for neighborhood plans
- PWD is the proponent for the sidewalk and bicycle master plans
- PWD is the proponent for maintenance and improvement of existing infrastructure

- **Program Integration**

- PWD integrates work in the City's right of way into the design of capital improvement projects and its ongoing maintenance and repair programs.
- PWD coordinates improvements with water, sewer, and storm water utilities projects. Projects recommended are consistent with other planned work
- PWD is the entity responsible for capital project delivery
- PWD has reviewed projects for consistency with approved City plans
- PWD has selected projects that have been designed under bond programs or that can be delivered within the approximate bond program time horizon



Supplemental Materials



- **Project Listings**
 - Street Reconstruction Projects
 - Bridge Projects
 - Sidewalk Projects
 - Bicycle Projects
- **Project Maps**
 - Pavement Condition Assessment
 - Sidewalk Condition Assessment
 - Proposed Street Reconstruction Projects
 - Bicycle Project Locations



Infrastructure Assessment Review



Infrastructure Assessment



Public Works conducted an Infrastructure Preliminary Assessment to determine the inventories, condition assessments, plans for preservation and maintenance, and critical needs for the infrastructure systems and networks that it manages.

Streets and Pavements: ~75% of the pavements City-wide are in fair or better condition. Capital funds are required to meet the objective of >80% rated as fair or better by the end of FY18, and to maintain/upgrade 10% of the inventory each year.

Bridges: 426 of the City's 427 major bridges under City responsibility have a rating of good or better. The remaining bridge (Emmett Shelton) is rated as fair. Funds are necessary to perform capital repair and replacement.

Pedestrian and Bicycle/Urban Trails: The pedestrian and bicycle networks contain substantial gaps, with only 14% of the trail network, 18% of the bicycle infrastructure, and 40%-55% of the sidewalk network being in-place. Increased funding over the past several years have provided for accessibility improvements, however more than 10 years will still be required just to address ADA Transition Plan requirements.



Infrastructure Assessment Streets and Pavements



SYSTEM INVENTORY:

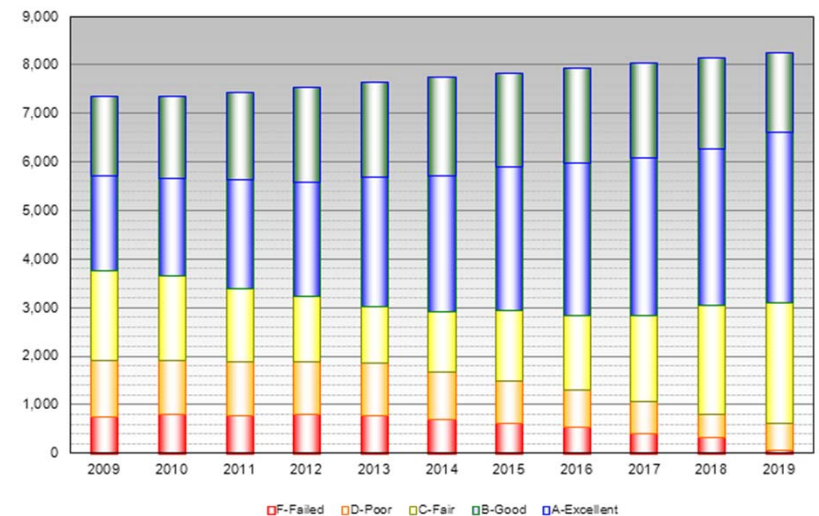
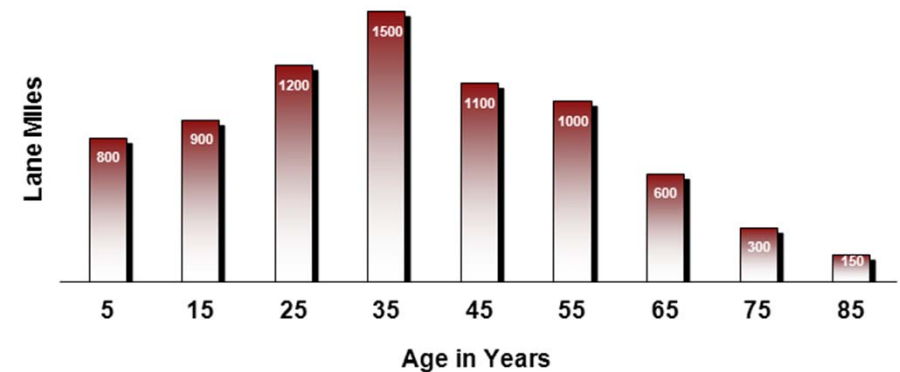
- There are 7,450 lane-miles of pavement in the City, consisting of arterials(15%), collectors (33%), and neighborhood streets (52%).
- The estimated value of the street inventory is \$3.2 billion, with an average pavement age of over 39 years.

CONDITION ASSESSMENT:

- Assessment ratings account for both pavement condition and “ride-ability” of the street. Evaluations are updated on a rolling-three year basis
- Excellent (Rating of “A”): 24%
- Good (Rating of “B”): 30%
- Satisfactory (Rating of “C”): 21%
- Poor (Rating of “D”): 15%
- Failed (Rating of “F”): 10%

SYSTEM PRESERVATION:

- PWD has established an ongoing program to preserve and improve the existing road network, with the goal of addressing 10% of the inventory each year.
- Poor (D) or failed (F) streets are improved using partial depth rehabilitation and full depth reconstruction projects.





Infrastructure Assessment: Pedestrian



SYSTEM INVENTORY:

- 2,400 linear miles (LM) of sidewalk

CONDITION ASSESSMENT:

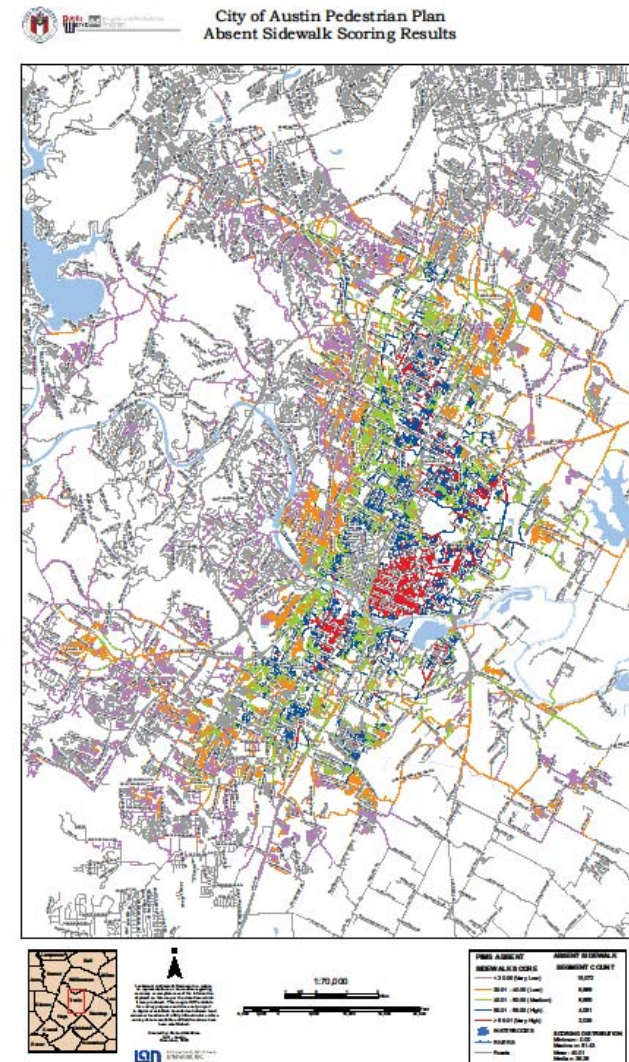
- Sidewalk conditions vary depending upon the age of the infrastructure.
- PWD has initiated a cyclic inspection effort to provide a comprehensive sidewalk condition assessment.

SYSTEM PRESERVATION:

- The most significant challenges facing the City with regard to the sidewalk infrastructure concern improving accessibility and compliance, and compliance with the requirements of the American with Disabilities Act (ADA). Addressing accessibility to public facilities, obstructions, slopes, and the absence of curb ramps.

SYSTEM EXPANSION:

- Pedestrian infrastructure networks are generally less than 50% completed.
- The locations of missing sidewalk segments were identified during the preparation of the Sidewalk Master Plan, and new sidewalk work is prioritized using the evaluation criteria provided in the plan..
- Construction of ~\$10 million per year in new ramps and sidewalks to improvements ADA accessibility City-wide





- 160 LM of bicycle lanes
- 50 LM of existing multi-use trails
- Separated Facilities - 5
- Shared Lane Facilities – 7

CONDITION ASSESSMENT:

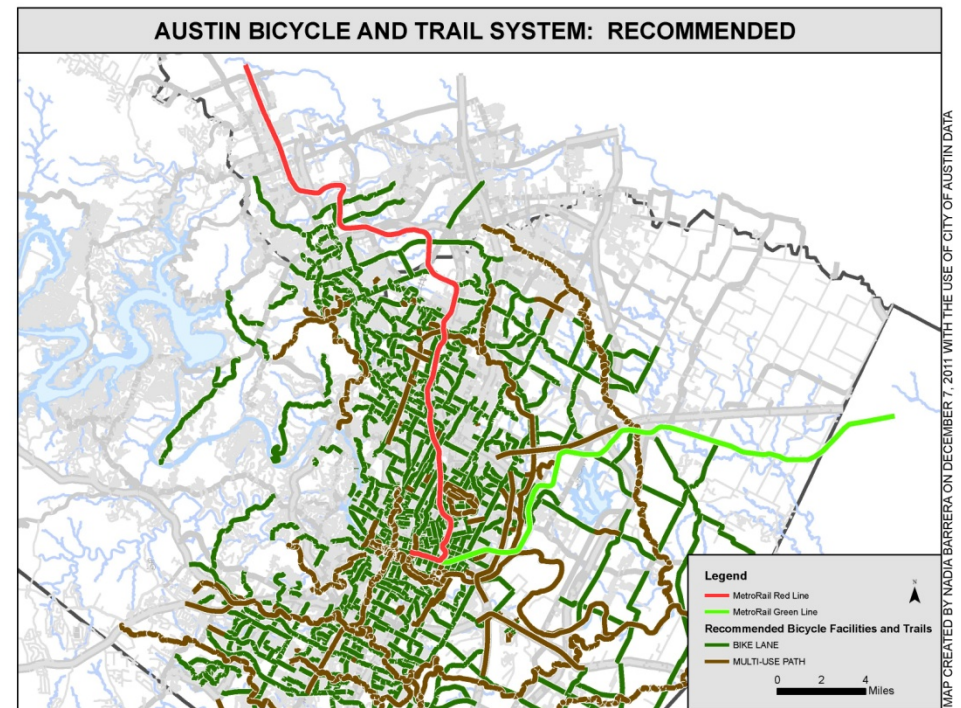
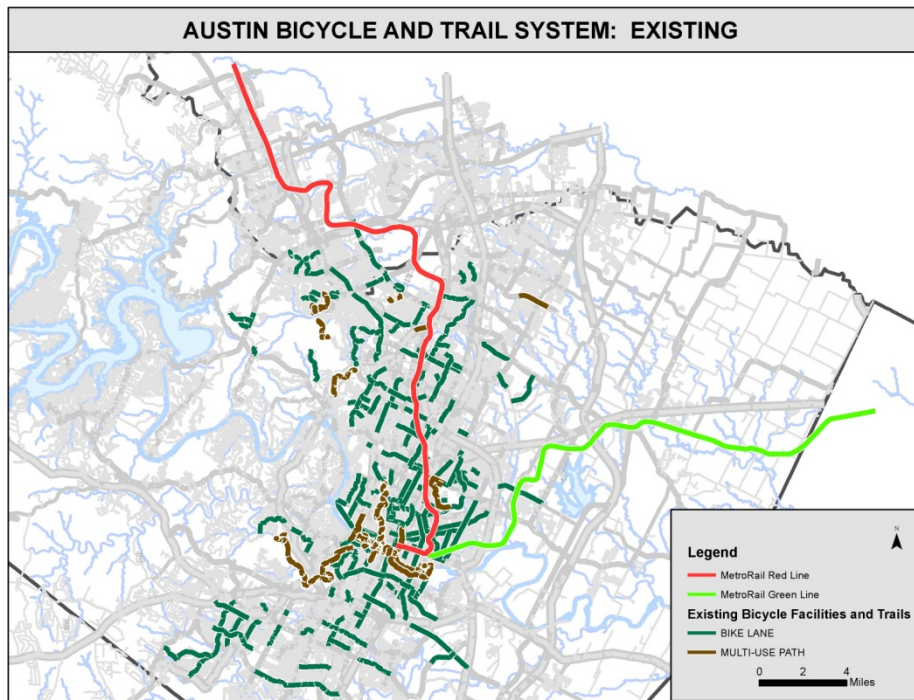
- The separated bicycle facilities are generally new and in good condition.
- Pavement markings are “refreshed” as part of the pavement maintenance program.

SYSTEM PRESERVATION:

- Bicycle facilities are maintained either under the bridge maintenance program or as part of the pavement maintenance program.
- Responsibility for maintenance of multi-use trail facilities has been transferred to PWD.
- PWD and PARD have been implementing a more integrated and coordinating maintenance approach.



Bicycle/Urban Trails Programs





Department Capital Program



The Public Works department is continuously assessing the condition and prioritization of roadways, sidewalks, bicycle facilities, multi-modal trails, and other capital assets to determine what priority projects are needed. This prioritization process is used to identify projects that are candidates for funding, through future general obligation bond programs or other potential funding sources.

Public Works uses a Coordinated Asset Management Approach in how it operates, maintains, and manages the right-of-way. The approach identifies and discusses work coordination and infrastructure activities. It focuses on a “dig-once” approach which effectively utilizes financial and staff resources; maintains the integrity of new or reconstructed assets; reduces impacts on traffic; and minimizes disturbances to neighborhoods.



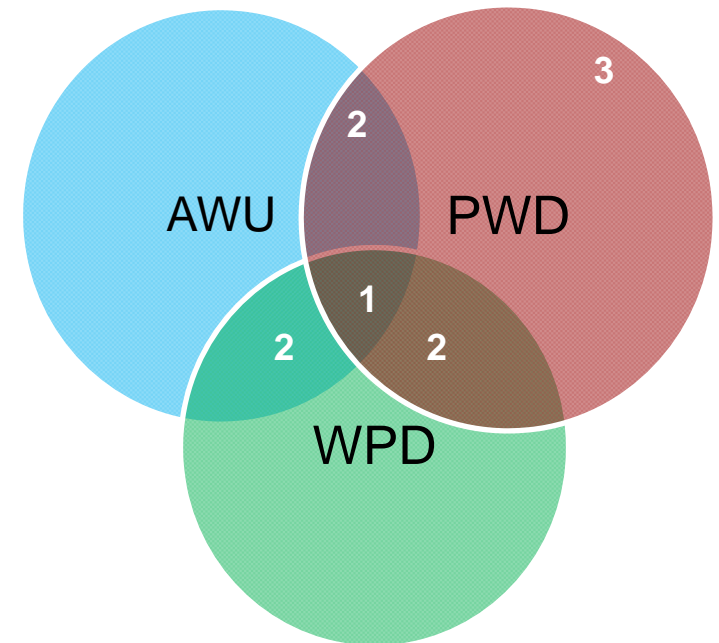
Project Coordination/Prioritization Process

Prioritization Process

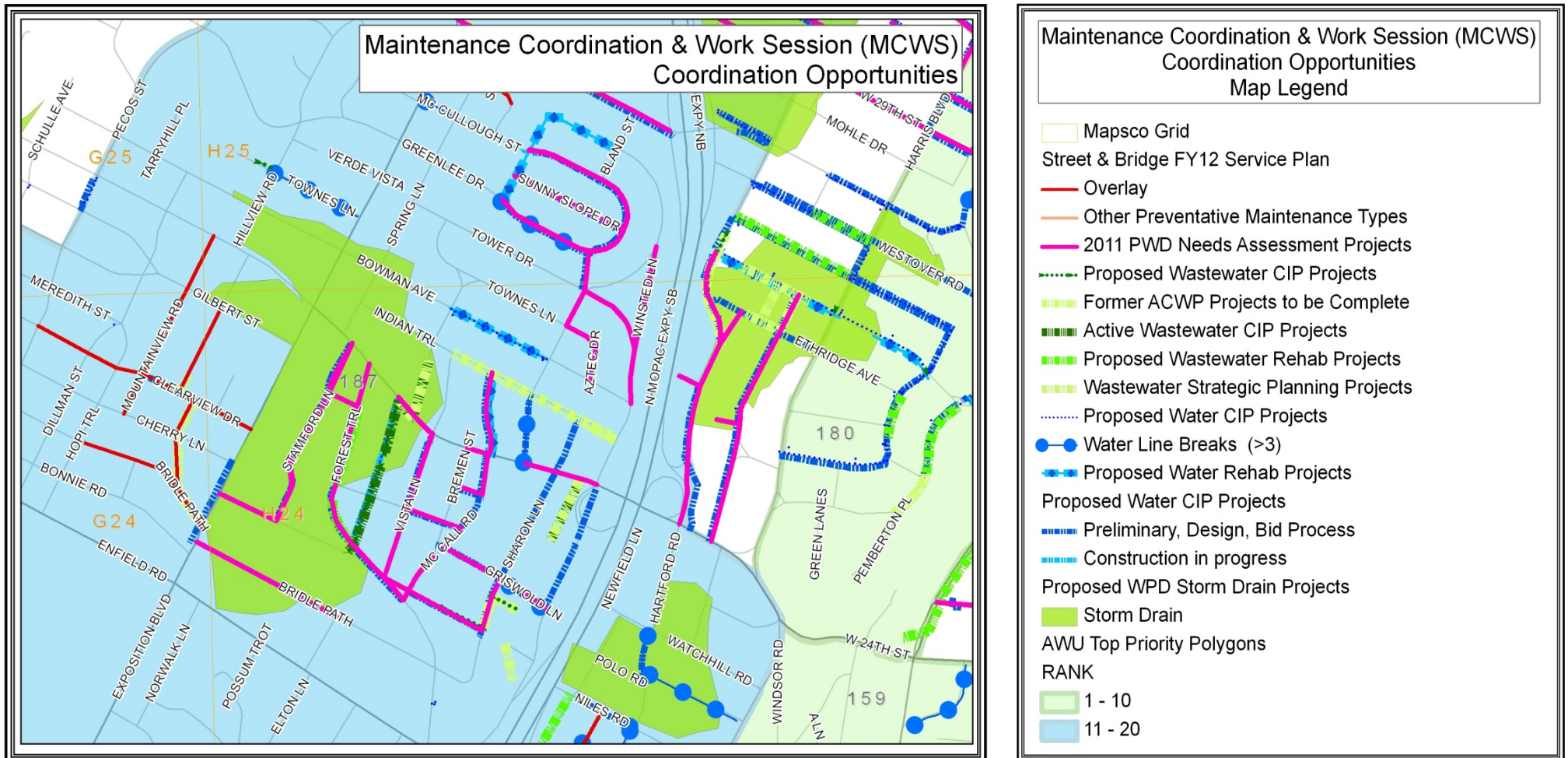
Priority 1: Neighborhood Impact Program – multiple department priorities combined into one a “dig-once” coordinated approach and optimizing the use of capital and operating funds.

Priority 2: Arterial/Collector Improvements – a coordination opportunity between at least two departments. This program includes Great Streets, Harris Branch Parkway, and the Street Reconstruction/Rehabilitation program.

Priority 3: Infrastructure Preservation and Connectivity – individual priorities for a department. In PWD, these priorities include improvements to the following assets: bridges; pavement; curbs, ramps, and sidewalks; bicycle facilities; child safety projects; and intersections.



Coordination Map





Coordination Matrix



Area of Interest: Mapsco Grid H24; Exposition Blvd to Mo-Pac, Indian Trail to Enfield Rd

Activity	Need Identified	Type of Opportunity	Department Priority	Current Level Project Definition or Phase
PWD-CIP	Yes	Street Reconstruction Sidewalk/Bikeway Urban Trail	High Priority – part of the 2011 Needs Assessment	CIP: 7531.008 Group 8-C Vista Ln & Stamford Ln Street Reconstruction & Utility Adjustment (0% Design)
PWD-Operations	No	Street Preventative Maintenance Sidewalk/Bikeway	No Priority	
AWU-Water	Yes	Small Diameter Transmission Main	High Priority	Multiple water line breaks; Proposed CIP projects (0% Design)
AWU-Wastewater	Yes	Wastewater Line	High Priority	Proposed WWGravityMain; Former ACWP projects (30% design)
AWU-Reclaimed Water	No	Reclaimed Water Line	No Priority	
WPD-CIP	Yes	Storm Drain Replacement Retention/Detention Pond Flood Water Mitigation	High Priority - identified in WPDRD's master plan	CIP: 5789.077 Johnson Creek - Stamford/Forest Trail Storm Drain Improvements (Preliminary)
WPD-Operations	No	Drainage Improvement	No Priority	



Public Works Departmental Programs



Street Reconstruction Program



- Street reconstruction is the primary means available to address “F” rated streets.
- Street reconstruction projects require repair and replacement of subsurface utilities and are coordinated with AWU, WPD, and other utility owners.
- Street reconstruction projects must include the placement and improvement of sidewalks up to 20% of project total.
- Street reconstruction projects must include 1% for tree planting.
- Projects are grouped geographically to enhance efficiency and City-wide equity.
- Projects selected include work designed using 2006 and 2010 bond funds.
- PWD requires \$15M - \$20M annually to meet its performance goal of improving the percentage of the inventory rated as satisfactory or better.



Sidewalk Program

- Sidewalk, curb, and gutter repairs are performed internally by PWD crews.
- New sidewalks are placed by both PWD crews and contracts.
- Sidewalk projects are prioritized using the PIMS* tool contained within the adopted Master Plan. The PIMS tool includes Neighborhood Plan requests in the evaluation and ranking.
- Sidewalks requirements are incorporated into other infrastructure projects (e.g. street reconstruction).
- Sidewalk projects are grouped geographically to ensure efficiency and equity.
- PWD requires \$10.0M per year for dedicated sidewalk projects in addition to sidewalks included in street reconstruction and work for others (e.g. Cap Metro and Austin Energy).



*Pedestrian Infrastructure Management System

Sidewalk Prioritization

General Approach

- Weighted values based upon various criteria
- Sidewalks score from 0-100
- Identifies potential sidewalk improvement areas

Five-Part Score

- Pedestrian Attractor Scores (PAS)
 - Base Score Weight 50%
- Pedestrian Safety Scores (PSS)
 - Base Score Weight 40%
- Fiscal Availability Score (FAS)
 - Base Score Weight 10%
- Neighborhood Request Score
 - Addition to base score, max. of 10 points
- Special Consideration Score
 - Addition to base score, max. of 10 points



PIMS Absent Sidewalk Scoring Lockwood, Andrews & Newman, Inc.

Pedestrian Infrastructure Management System

Existing Sidewalk: Sidewalks

Absent Sidewalk: Absent Sidewalks

☐ Boundary Constraint

Pedestrian Attractor	Active	Source Layer	Points Per Feature	Search Distance
Schools	<input type="checkbox"/>	Schools	15	.25
Government	<input type="checkbox"/>	Government Offices	25	.25
Transit Stops	<input type="checkbox"/>	Transit Stops	20	.25
Parks	<input type="checkbox"/>	Parks	18	.25
Public Accommodation	<input type="checkbox"/>	Public Accommodation	18	.25
Public Housing	<input type="checkbox"/>	Housing	10	.25
Major Employers	<input type="checkbox"/>	Major Employers	12	.25
Census Blocks Per 1,000 People	<input type="checkbox"/>	Census Blocks	2	.5
Pedestrian Risk				
Accidents	<input type="checkbox"/>	Accidents	15	.1

☐ Include Sidewalk on other side of road

Output Options

☐ Place results in Input Sidewalk Layer

☐ Export Results to new layer...

Bicycle/Urban Trails Programs

- PWD is the proponent for implementing the approved Bicycle Master Plan. The Plan requires full implementation by 2020.
- Bicycle facilities are put in place through both dedicated projects and as part of other CIP and maintenance projects.
- PWD has responsibility for design, construction, and maintenance of multi-use/multi-modal trails.
- A comprehensive Urban Trails Master Plan is being developed by PWD, ATD, WPD, and PARD.



Bicycle/Urban Trails Projects

PWD has identified \$22.6M in bicycle and urban trails projects, including the following:

- MoPAC Bicycle Bridge
- Barton Springs Road Bridge
- Austin to Manor Trail
- Pleasant Valley Road
- Country Club Creek Trail
- City Wide Bikeway Implementation
- Bike Grant Matching Funds
- Widen Pleasant Valley Road
- Urban Trail Grants



Bridge Projects

PWD is responsible for maintenance, repair, and replacement of bridges and structures in the City's ROW. PWD has requested \$22.3M for required projects including the following:

- Emmett Shelton Bridge
- Barton Springs Road Bridge
- William Cannon Drive Wall Repairs
- Slaughter Lane MSE Wall Repairs
- Minor Bridge and Culverts
- Delwau Road Bridge over South Boggy Creek
- Cesar Chavez at Red River Improvements
- Riverside Drive Retaining Walls





Neighborhood Partnering Program



The NPP was initiated in FY10 at the request of Council. The program empowers neighborhoods through City Community partnerships. By building relationships within communities, small scale projects are advanced through neighborhood in-kind donations, sweat equity, and maintenance commitments by those involved. PWD has requested \$1.2M to provide funds for non-cash matches provided by neighborhood groups over a 6-year period.





Questions/Discussion



Your Department with a Heart!!!